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ABSTRACT

In order to examine the conditions that determine when intergroup cooperation will result in increased intergroup attraction, a group of 494 male and female undergraduate students was divided into task groups consisting of eight to twelve individuals. In the first phase of the study, groups were led to believe that they were either competing, cooperating, or having no interaction with a second group. In the second phase, the two groups were combined and instructed to work cooperatively on two tasks. Later, subjects were told that their combined effort had either succeeded or failed. Intergroup-attraction scores indicated that, when groups had previously competed, failure of the combined effort resulted in decreased intergroup attraction, while success yielded increased attraction. For groups that had previously cooperated, however, both success and failure of the combined effort increased intergroup attraction. (Author/KS)

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Intergroup Cooperation and Intergroup Attraction: The Effect of
Previous Interaction and Outcome of Combined Effort

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Abstract

The present study investigated the conditions that determine when intergroup cooperation will result in increased intergroup attraction. In the first phase of the study groups were led to believe that they were either competing, cooperating, or having no interaction with a second group. The results indicated that competition led to the least intergroup attraction. In the second phase of the study, the two groups were combined and worked cooperatively on two tasks. They received feedback that their combined effort had either succeeded or failed. Intergroup attraction scores were taken after the second phase of the study. When groups had previously competed, failure on the combined effort resulted in decreased intergroup attraction while success yielded increased attraction. However, for groups that had previously cooperated, both success and failure on the combined effort increased intergroup attraction. The results were interpreted as showing that both previous interaction and success of combined effort are important variables in determining when intergroup cooperation will increase intergroup attraction.

Intergroup Cooperation and Intergroup Attraction: The Effect of
Previous Interaction and Outcome of Combined Effort¹

Intergroup cooperation as a means of reducing conflict and increasing attraction between groups has been widely espoused and practiced (e.g., Filley, 1975). The assumption behind this method of conflict reduction is that by working together differences between groups will be minimized and intergroup acceptance will be fostered (Sherif and Sherif, 1969). There have been demonstrations that intergroup cooperation does increase intergroup attraction. In a classic study, Sherif, Harvey, White, Hood and Sherif (1961) first created conflict between two groups of children at a summer camp by having the groups compete on a series of events. This competition led to antagonism and hostility between the groups. Following this phase of the study, the groups cooperated on a series of superordinate goal tasks. These tasks were designed so that one group by itself could not achieve the goals but if the two groups worked together the goals could be obtained. Cooperation for these superordinate goals resulted in increased attraction between the two groups.

While there is empirical evidence showing that cooperation can increase intergroup attraction, there are cases where cooperation either failed to increase intergroup attraction or actually resulted in increased antagonism (e.g., Deutsch, 1973; Sherif & Sherif, 1969; Filley, 1975). Simple cooperation thus is not sufficient to increase attraction. However, there has been surprisingly little investigation of the conditions that will determine the effect of cooperation on intergroup relations (Deutsch, 1973).

The aim of the present research was to identify conditions under which intergroup cooperation increases attraction and some conditions under which it does not. One variable that seems of critical importance, but which has

largely been ignored in previous research, is the outcome of the cooperation. That is, is the cooperative venture successful or does it result in failure?

There are numerous theoretical positions contending that successful cooperative encounters should enhance intergroup attraction. According to balance theory (Heider, 1958) cooperating groups would share a common experience (common positive unit relationship) and should, therefore, be attracted to each other. From reinforcement theory (e.g., Lott and Lott, 1968) it could be hypothesized that groups who experience a positive outcome following cooperation would be reinforced for their joint efforts and hence become more attracted to one another. Thus cooperation resulting in successful outcome should enhance intergroup attraction.

The more interesting question, however, is how failure on the cooperative venture will effect intergroup relations. On one hand, failure, like success, should enhance attraction. In this case, the two groups also share a common experience (positive unit relationship), should see themselves as similar, and hence should become more attracted to each other (e.g., Heider, 1958; Byrne, 1971). The same prediction can be derived from cognitive dissonance theory (Festinger, 1957). Individuals should come to like that for which they have suffered and presumably those with whom they have suffered (e.g., Aronson & Mills, 1959).

On the other hand, it can be predicted that failure should result in a deterioration of intergroup relations. The negative reinforcement for working together could lead to decreased attraction. Also, failure should be experienced as frustrating by each group and this frustration could invite intergroup aggression (Dollard, et al., 1939). Each group may blame the other as the cause of the failure and this scapegoating should result in greater intergroup discrimination and decreased intergroup attraction.

Given that, theoretically, failure could lead to either increased or decreased intergroup attraction, it is important to identify those conditions that lead to one result as opposed to the other. There are numerous variables that could affect the result of failure on a cooperative effort but one important variable should be the type of interaction that existed between the groups prior to cooperation.

There have been demonstrations that the type of interaction in which groups engage sets the tenor for intergroup attraction and tends to erect distinct group boundaries. Blake and Mouton (1961), Sherif et al. (1961) and Worchel, Lind, and Kaufman (1975) found that competition between groups leads to decreased liking between the groups and a strong demarcation along the "we-they" dimension. Cooperation or independent action by two groups does not have this centrifuging effect.

Following this reasoning if the two groups entered the cooperative venture on friendly terms with a tendency to like each other, there should be a desire to incorporate into one group and avoid recreating old group boundaries. This feeling should mitigate against scapegoating and thus, it could be predicted that failure on the cooperative effort would not lead to a deterioration in relations between the two groups. They should, in a sense, see themselves as "all in the same boat" and as suffering together. The situation should be different for groups who enter the cooperative endeavor with a past history of strong group boundaries and little attraction between members of the two groups. In this case, the strongest tendency would be not for intergroup incorporation but for intergroup distinction. Disruptions that occurred during the cooperative period should exacerbate the "we-they" distinction and lead to decreased liking for the outgroup. Thus, failure under such circumstances should lead to decreased intergroup attraction.

It could thus be predicted that the effect of intergroup cooperation on intergroup attraction is dependent on both outcome of cooperation and the nature of the past interaction between groups. Specifically, the two variables should interact so that success will lead to increased attraction regardless of previous interaction but failure should result in increased attraction only if the previous interaction has been cooperative. The present study tested this prediction by varying the type of previous interaction between the groups (competitive, cooperative, independent) and the outcome of the later cooperative venture (success, failure).

Method

Subjects

Four hundred and ninety-four male and female undergraduate students participated in the experiment in partial fulfillment of introductory psychology course requirements. Each experimental session involved six-sexed groups of eight to twelve subjects. Data from two sessions were omitted from the analysis because some or all of the group members expressed suspicion concerning the true nature of the experiment. One male and one female graduate student served as experimenters for the sessions and each conducted at least four sessions in every condition.

Procedure

When a group of subjects arrived at the experimental session, they were ushered into the experimental room and seated around a large table. Subjects were told, they would participate in an industrial simulation which consisted of working on a series of business-like tasks under various kinds of pressure. The subjects were told that each task must be completed within a certain time period. If the product of the task met specified standards subjects would receive a monetary reward for their work. They were also

told to expect to complete some reports concerning the tasks periodically throughout the experiment.

The experimenter then stated that since the simulation was concerned with the performance of small groups, the large group would be divided into two small ones. Subjects drew slips of colored paper from a box and were placed in two groups based on the color of paper they drew. It was prearranged that there would be an equal number of people in each group and the groups were controlled so that similar numbers of males and females would be in each of the small groups.

Manipulation of Type of Group. At this point the type of interaction between the two groups was manipulated. In the cooperative conditions, subjects were told that cooperation between groups within an industry was an important aspect of the work situation. Therefore, in order to simulate this, the two groups would cooperate on the tasks. The experimenter explained that the product of each group would be combined and only if this combined product met the standard would both groups earn the monetary prize available for the task. However, if it did not meet the standard, neither group would receive the reward.

The subjects in the competitive condition were informed that they would be competing against each other for the reward available for each task. The experimenter stated that the products of the two groups would be compared to each other as well as to a standard and that the group who came closest to meeting the standard would be awarded the prize for the task. It was stressed that only one group could win.

In the individualistic condition, the experimenter explained that two groups had been formed simply because it was easier and faster to use two groups in one session. He stressed that the two groups would work inde-

pendently and that the outcome of one group in no way affected or interfered with the other group. He pointed out that it would be possible for both groups to win the prize for the task.

On the first task, subjects were told they would be given the case history of Johnny Rocco, a young boy who required psychological counseling. The group's task was to design a treatment program for him. Subjects in the cooperative condition were informed that the two programs would be combined and analyzed by a computer. If this final program was as effective as a standard program, then they were told that each person in both groups would earn 50c. In the competitive condition each program would be analyzed by the computer and the members of the group that had the most effective program would each win 50c. In the individualistic condition, the subjects were told that if their group's program met the standard level of effectiveness, each member would receive 50c.

The experimenter then explained that since the solutions to this and the remaining task in the first series would require some time to analyze, the results would not be made available until the end of the experiment. In actuality, there was no standard nor were the subjects ever informed of their outcome on the first series of tasks.

The groups were then led to separate rooms and given the material necessary to complete the task. After twenty minutes had elapsed, the solutions were collected. The groups then returned to the large outer room, where instructions for the second task were given. The task involved generating, within a ten minute time period, as many words as possible from the letters of the word "industriously." The method employed to determine who would earn the 50c prize was similar to the one described to the groups for the first task. In the cooperative condition, the product would be combined.

In the competitive condition, the groups' products would be compared while in the individualistic condition, the groups would simply work separately for their own benefit. The groups then returned to their individual rooms.

Following completion of the word task, the two groups were brought together and were given the first questionnaire. The questionnaire first asked subjects to indicate the three people whom they would most like as friends and the three whom they would least like as friends. They were then asked to rate how attracted they were to each member of the two groups. Finally, they were asked to identify leaders in their own group and to indicate their evaluations of the tasks. When all the subjects had completed the questionnaire, the experimenter stated that the groups would be combined and would work together as one group to produce one solution for each of the remaining tasks. It was emphasized that if the group solution met the standard, everyone would receive the money.

Subjects were given a brief description of a toothpaste product and asked to write a slogan for it. Ten minutes were allotted for this task. The experimenter added that due to the ease with which the remaining solutions could be analyzed, the groups would know immediately whether they had succeeded on the task.

Manipulation of Outcome. Upon completion of the slogan task, the experimenter typed the slogan solution into the teletype and appeared to receive a reply almost immediately. It was at this point that the experimenter manipulated the outcome variable according to a specified random schedule. The experimenter was unaware in which outcome condition the group would be until this point. In the success condition, the experimenter announced that the group had been successful in meeting the task requirements. He then placed 50¢ for each group member into a box, stating that he would let the group

work on the second task and then distribute the money to the individual members. In the failure condition, he simply said that the group solution had not met the standard.

For the second task, subjects were given information about several trucks and truck drivers and asked to allocate the trucks to the drivers to ensure that everyone would be satisfied (adapted from Maier, 1955). After the group had worked on the problem for twenty minutes, the experimenter typed the solution into the teletype and again announced the outcome of the task. All groups were given the same feedback that they had received on the first task in this series. Thus, each group was informed that they had either succeeded at both tasks or failed at both.

Following completion of all of the tasks, the experimenter again requested that each member of the group complete a questionnaire. Subjects were then thoroughly debriefed.

Results

All the results were first analysed by a multivariate program to test for an experimenter effect. None appeared on any of the variables, so the data were collapsed over experimenter. This resulted in a 3 (Type of Group) $\times$ 2 (Outcome) design. Since subjects were run in groups, the results are computed and analysed according to the group averages.

Subjects completed the first questionnaire after working on the first two tasks. The first and second questionnaires were the same with the exception of the cooperation manipulation check that appeared only on the first questionnaire.

Manipulation check. Subjects were asked "How cooperative did you feel toward members of the other group?" (1-Very cooperative, 11-Very competitive). The means for each of the cooperative, competitive and individualistic condi-

conditions (4.77, 18.95, and 11.36, respectively) indicate that the cooperative-competitive manipulation was successful. Subjects in the cooperative conditions felt significantly more cooperative than subjects in the individualistic groups ($F(1,44) = 171.87, p < .001$) who felt significantly more cooperative than subjects in the competitive conditions ($F(1,44) = 242.25, p < .001$). There were no other significant effects for this variable.

Attraction Measures

The most direct measure of attraction asked subjects to rate each member of the groups as to how much he was liked (1=Like very much, 31=Dislike very much). This question was asked after both the competitive and cooperative phases and the results of these two measures along with the difference score are presented in Table 2.

Insert Table 1 here

As can be seen from the means, cooperation in the first phase led to the greatest outgroup attraction while competition resulted in the least attraction for the outgroup (main effect $F(2,44) = 181.91, p < .001$). Interestingly enough, there was a main effect for Type of Group on the ingroup ratings ($F(2,44) = 3.64, p < .05$). Subjects in the competitive groups were more attracted to members of their own group than were subjects in the cooperative groups ($F(1,44) = 7.23, p < .05$).

Looking next at the attraction scores following the intergroup cooperative phase, it can be seen that cooperation had essentially no effect on the attraction for ingroup members. The mean ratings following the second phase are nearly identical to those obtained after the first phase of the study and the success-failure manipulation had no effect on ingroup ratings.

The manipulations of the second phase, however, had a marked effect on the ratings of the outgroup members. While there were main effects for the Type of Group ($F(2,44) = 3.21, p < .05$) and Outcome ($F(1,33) = 105.72, p < .001$) manipulations, both of these effects were qualified by the significant interaction ($F(2,44) = 67.41, p < .001$). Success on the combined effort produced increased attraction for the outgroup regardless of the type of previous interaction that had taken place. In fact, the success completely wiped out the differences in outgroup attraction that had existed between groups in the cooperative condition and those in the competitive condition. Failure on the combined effort, however, did not have a unidirectional effect. The failure increased the attraction for the outgroup in the cooperative and individualistic conditions but led to a decreased attraction when the groups had previously competed. Thus, both type of previous interaction and outcome of the cooperative venture interacted to determine whether intergroup cooperation increased or decreased intergroup attraction.

A second measure of intergroup attraction was assessed by asking subjects to name the three people with whom they would most like to be friends and the three whom they would least like to have as friends. When the relative preference of ingroup vs. outgroup members was compared (i.e., number of outgroup members named as least desired friends), the pattern of results

Insert Table 2 about here

was identical to those obtained on the other attraction scores. After the first phase, there was a stronger bias against outgroup members in the competitive groups than in the other groups ($F(2,44) = 21.77, p < .001$). Success on the combined effort decreased this bias in all conditions so that there

was essentially no difference between the preferences of the previously competitive and cooperative groups ($F < 1$). Failure, on the other hand, resulted in a decreased bias against outgroup members only in the cooperative and individualistic groups. But in groups who have previously competed and failed on the subsequent combined efforts there was actually a tendency for greater bias against the outgroup members.

Task Ratings

Subjects were asked to rate how difficult and enjoyable they found the tasks and how satisfied they were with their performance. There were no differences on any of these ratings after the first phase. After the second phase, subjects in the success conditions reported that the tasks were less difficult, more enjoyable, and they were more satisfied with their performance than subjects in the lose conditions.

The interactions that did reach significance were caused by the fact that in the failure condition, the competitive group felt they enjoyed working on the two tasks less than subjects in the cooperative or individualistic conditions (First Task: $F(1,44) = 37.25, p < .001$; Second Task: $F(1,44) = 26.59, p < .001$) and were less satisfied with their performance on the two tasks (First Task: $F(1,44) = 24.01, p < .01$; Second Task: $F(1,44) = 6.48, p < .01$). There were no significant differences on these ratings for group in the success conditions.

Discussion

The results obtained in the present study are relatively straightforward. Competition between groups leads to decreased attraction between the groups. This finding is similar to that obtained by Sherif et al. (1961) who found open hostility and aggression between groups who competed with each other over a number of days. The results of the present study were not as dramatic as those of the Sherif et al. but the intensity and the quantity of the competi-

tion were also less in the present study.

The second effect that is clearly demonstrated in the present data is that whether or not intergroup cooperation increases intergroup attraction is dependent on the type of interaction that previously existed before the cooperation and the outcome of the cooperation. Specifically, cooperation will increase intergroup attraction if it is successful regardless of the previous interaction. However, cooperation that results in failure will lead to decreased intergroup attraction if the groups had previously competed. If the groups had a history of cooperation or of individualistic activity, failure on a joint endeavor will still increase attraction between the two groups. It is interesting to note that the effect of the manipulations was totally on attraction for the outgroup. Attraction for the ingroup was not affected by either the type of previous interaction or the outcome of the combined effort.

While the results seem quite clear, the explanation for them is not so clear. For example, the question can be asked as to why the effects were almost completely confined to ratings of the outgroup rather than affecting the ingroup ratings? It is possible that this was due to a ceiling effect on the ingroup ratings. That is, there simply wasn't room for the ingroup ratings to move. This is not a particularly convincing explanation given that while the ingroup ratings were positive, there was still about 25% of the scale open to accommodate more positive ratings. The second explanation is that the attention of the group members turns to that which is strange (i.e., the members of the outgroup). The behavior of those "new" members becomes closely scrutinized. Thus, any changes in attraction for group members is reflected in the ratings of the outgroup members rather than

in ratings of the ingroup members because of this attention factor. Additional research is needed to test this attention hypothesis, but it can be used to explain some of the present data.

A second question concerns why failure had a differential effect on attraction while success always resulted in increased intergroup attraction? Balance, reinforcement or simple contact are possible explanations for the success results. Balance and reinforcement theories would suggest that groups who share positive experiences should become more attracted to each other. In addition, it may be that simple contact between the groups yielded the increased attraction. While these theories could explain the success results, they could not account for the data obtained in the failure conditions. An explanation that could account for both the success and failure results would be more satisfying. Returning to the explanation suggested earlier, it is possible that the early competition initiated a strong intergroup distinction while the early cooperation did not. In the case of competition, it is possible that the later success helped to erase this distinction. Failure, on the other hand, could have set into motion a desire to blame the other group for the poor outcome and this would lead to an increase in the intergroup distinction. The increased discrimination between groups should be reflected in a decreased attraction for the out group. In the case of success, there would be no tendency to blame the outgroup for the failure since the previous interaction did not create strong ingroup-outgroup lines. This explanation would explain why success resulted in increased intergroup attraction in all cases and why there was a differential effect in the failure conditions. Another alternative, along the same lines, is that subjects in the competitive conditions came to view their group as having superior ability compared to the outgroup. This perception would make the outgroup an easy target on which to

blame the failure in the combined effort. This reasoning assumes, of course, that such a superior-inferior bias in perception was not present in the cooperative or individualistic conditions since there was little need to make intergroup comparisons in these conditions. While this reasoning is akin to the group distinction reasoning there is less data to support this latter line. There were no differences in the task ratings by subjects in the various conditions on the enjoyableness, satisfaction, or difficulty dimensions. It might be expected that if subjects thought their group was very superior to the outgroup in the competitive condition, their ratings on the tasks would vary from subjects in the cooperative and individualistic conditions. Whatever the particular dynamics, the present study demonstrated that simple cooperation will not necessarily increase intergroup attraction between groups who have previously competed.

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Footnotes

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Table 1
Means of Liking Scores for Ingroup and Outgroup

Type of Previous Interaction										
INGROUP										
Cooperative				Competitive			Individualistic			
		First Question - naïve		Second Question - naïve	Difference	First Question - naïve		Second Question - naïve	Difference	
		Question - naïve	Question - naïve	Question - naïve		Question - naïve	Question - naïve			
Success	6.85 ^a	6.50		.35	6.18	5.97	.21	6.50	6.25	.25
Failure	6.98	6.92		.06	6.38	5.90	.48	6.73	6.58	.15
<u>OUTGROUP</u>										
OUTGROUP										
Cooperative				Competitive			Individualistic			
		First Question - naïve		Second Question - naïve	Difference	First Question - naïve		Second Question - naïve	Difference	
		Question - naïve	Question - naïve	Question - naïve		Question - naïve	Question - naïve			
Success	12.22	9.41		2.81	16.52	10.29	6.23	12.89	9.93	2.86
Failure	11.68	8.96		2.72	16.89	19.35	-2.46	12.33	10.44	1.89

^aResponse to question "How much do you like the following people? (1-Like very much, 31-Dislike very much)"

Table 2

Means of Naming Outgroup Members as Least Desired Friends

Outcome	Type of Previous Interaction			Individualistic		
	Cooperative		Competitive	First Question - naire		Difference
	First Question - naire	Second Question - naire	Difference	First Question - naire	Second Question - naire	Difference
Success	2.36 (n=8)	1.97	.39	2.68 (n=8)	2.02	.66
				2.47 (n=9)	1.91	.56
Failure	2.27 (n=8)	1.82	.45	2.74 (n=9)	2.80	-.06
				2.46 (n=8)	1.96	.50